بسمـــ الله الرحمن الرحيمـــ

فريق عمل كل الطب

يُقدمـــ

# سلسلة كتب د/أحمد موافي

# In Capsule Series

تم الرفع بواسطة فريق عمل كل الطب

## ALLTEB MEDICAL TEAM

مجمع ومنقول من أكثر من مصدر

جزى الله خيرا كل من ساهم في هذا العمل

لا تنسونا من صالح دعائكمـــ،،

WWW.ALLTEBFAMILY.COM

# Gastroenterology MCQ

**1- A 56 - year - old man presents to his internist with jaundice The patient is receiving no medication , and his only symptomatic complaint is mild fatigue over the past 2 months. Physical examination is remarkable only for the presence of sclera icterus. The patient has no significant past medical history. Analysis of serum chemistry reveals the following : SGOT : 35 U/L , SGPT : 35U/L , Total bilirubin : 7 mg/dl , Direct bilirubin : 5 mg/dl , Alkaline phosphate : 720 U/L . Which of the following is the next most appropriate diagnostic step ?**

a. CT of the abdomen.
b. Liver biopsy.
c. Review of peripheral blood smear.
d. Endoscopic retrograde cholangiopancreatography ( ERCP )
e. No further evaluation necessary : the patient has Dubin-Johnson syndrome.

**2- Which of the following statements about achalasia is correct ?**

a. The underlying abnormality appears to be defective innervation of the esophagus and lower gastric sphincter.
b. Dysphagia , chest pain and regurgitation are the predominant symptoms.
c. Chest x-ray often reveal a large gastric air bubble.
d. Manometry reveals a normal or elevated pressure of the lower gastric sphincter.
e. Omeprazole is effective in controlling the symptoms in many patients.

**3 - A 70 year-old woman with a history of aspirin-induced gastritis 5 years ago now has severe knee and hip pain that is thought to be due to osteoarthritis. She requires treatment with non steroidal anti-inflammatory agents, which of the following agents would be most helpful for prophylaxis against recurrent gastrointestinal bleeding ?**

a. Omeprazole.
b. Misoprostol.
c. Nizatidine.
d. Sucralfate.
e. Atropine.

**4- Which one of the following diagnostic studies for malabsorption is usually normal in persons who have bacterial overgrowth syndrome ?**

a. Fecal fat quantitation ( 24h )
b. Stage II Schilling test ( intrinsic factor giving with vitamin $B_{12}$ )
c. D-Xylose absorption test.
d. Lactulose breath test.
e. Quantitative cultures of jejuna aspirates.

**5- As a consequence of severe liver damage , hepatic amino acid handling is deranged . In this situation , plasma levels of which of the following are likely to be lower than normal ?**

a. Ammonia ( $NH_3$ )
b. Ammonium ( $NH_4$ )
c. Alanine.
d. Urea.
e. Glycine.

**6- Which of the following conditions are known to predispose to the formation of cholesterol gallstone ?**

a. Hypertriglyceridemia.
b. Hypercholesterolemia.
c. Auto immune hemolytic anemia.
d. Sickle cell anemia.
e. Surgical resection of the ileum.

**7- A patient with sclera icterus and a positive reaction for bilirubin by urine dipstick testing could have which of the following disorders ?**

a. Autoimmune hemolytic anemia.
b. Dubin Johnson syndrome.
c. Crigler-Najjar type II disorder.
d. Thalassemia intermedia.
e. Gilbert's syndrome.

**8- Which of the following statements regarding delta hepatitis virus ( HDV ) is correct ?**

a. HDV is a defective DNA virus.
b. HDV can infect only persons infected with hepatitis B virus ( HBV ).
c. The HDV genome is partially homologous with HBV DNA.
d. HDV infection has been found only in limited areas of the world.
e. Stimultaneous infection with HDV & HBV results in an increased risk of the development of chronic hepatitis.

**9- A 55- year - old male smoker presents with burning epigastric pain several hours after a meal, which is relieved by antacids. Upper gastrointestinal endoscopy discloses an ulcer with a well-demarcated border at the duodenal bulb.Histologic examination of a biopsy specimen of the ulcer crater reveals eosinophilic necrosis with surrounding fibrosis without evidence of malignancy. Furthermore, analysis of a histologic section involving the gastric mucosa reveals invasion with a gram-negative rod. Which of the following is the most appropriate therapy?**

a. Mylanta.
b. Ranitidine.
c. Omeprazole.
d. Bismuth plus metronidazole.
e. Omeprazole plus clarithromycin plus metronidazole.

**10- A 66 year-old man presents with fatigue and tea colored urine Physical examination reveals icteric sclera but is otherwise unremarkable. Which of the following conditions is LEAST likely to account for these findings ?**

a. Pancreatic cancer.
b. Gallbladder cancer.
c. Primary biliary cirrhosis.
d. Auto immune hemolytic anemia.
e. Viral hepatitis.

**11- Which of the following features is more commonly associated with ulcerative colitis than with crohn's disease ?**

a. Fistulas.
b. Rectal bleeding.
c. Segmental involvement.
d. An abdominal mass.
e. Mesenteric lymph node involvement.

**12 - Which of the following statements concerning the relationship of duodenal ulcer and *H.* pylori infection is correct ?**

a. Virtually all patients with a duodenal ulcer harbor *H*. pylori.
b. Most patients infected with H. pylori will develop an ulcer.
c. *H*. pylori invades the gastric mucosa.
d. The demonstration of *H*. pylori as a causative feature in a given patient with a duodenal ulcer requires biopsy.
e. The relapse rate for duodenal ulcer is equivalent whether *H*. pylori eradication therapy or H2 receptor antagonists are used.

**13- A 56 year- old patient with cirrhosis of the liver presents with massive hemetemesis. Somatostatin, fluids and blood products are administered and the patient is intubated. Emergency endoscopy reveals bleeding esophageal varices. The patient becomes stable hemodynamically but is still bleeding. The most appropriate next step is :**

a. intravenous propranolol.
b. intravenous vasopressin.
c. balloon tamponade.
d. endoscopic injection sclerotherapy.
e. endoscopic variceal band ligation.

**14- Typical causes of extra hepatic cholestatic jaundice include :**

a. sclerosing cholangitis.
b. primary biliary cirrhosis.
c. cystic fibrosis.
d. alcoholiccirrhosis.
e. non-alcoholic steatohepatitis.

**15- The following features suggest extrahepatic cholestasis rather than viral hepatitis EXCEPT:**

a. a palpable gall bladder.
b. right hypochondrial tenderness.
c. serum alkaline phosphatase concentration >2.5 times normal.
d. pruritus and rigors.
e. peripheral blood polymorph leucocytosis.

**16- As regard to conjugated bilirubin , which of the following is correct ?**

a. Conjugated bilirubin in the serum in hemolytic anemia is typically increased.
b. Conjugated bilirubin in urine of healthy subjects is typically undetectable.
c. Conjugated bilirubin normally constitutes most of the total serum bilirubin.
d. Conjugated bilirubin in Gilbert's syndrome is typically increased.
e. Conjugated bilirubin in the serum in obstructive jaundice is typically decreased.

**17- The typical features of acute (fulminant) hepatic failure include : EXCEPT**

a. onset within 8weeks of the initial illness.
b. hepatosplenomegaly and ascites.
c. encephalopathy and fetor hepaticus.
d. nausea, vomiting and renal failure.
e. cerebral edema without papilloedema.

**18- The typical features of hepatic cirrhosis include : EXCEPT**

a. a small shrunken liver .
b. painful splenomegaly.
c. peripheral blood macrocytosis.
d. parotid gland enlargement.
e. central cyanosis.

**19 - In the management of ascites due to hepatic cirrhosis :**

a. the dietary sodium intake should be restricted to140 mmol/day.
b. paracentesis and parenteral albumin replacement improve the survival rate.
c. the daily calorie intake should be restricted to1500 calories.
d. diuretic therapy should achieve a daily weight loss of at least2.5 kg.
e. the protein intake should be at least 40g/day unless encephalopathy is suspected.

**20 - Prevention of recurrent variceal bleeding is achievable using : EXCEPT**

a. somatostatin (*octreotide*) therapy.
b. TIPSS.
c. C-adrenoceptor antagonist (C-blocker) treatment.
d. variceal banding.
e. sclerotherapy.

**21- In primary biliary cirrhosis :**

a. middle-aged males are affected predominantly.
b. pruritus is invariably accompanied by jaundice.
c. osteomalacia and osteoporosis both occur as the disease progresses.
d. rigors and abdominal pain are presenting features.
e. smooth muscle antibodies are present in high titres in the serum.

**22- The typical features of primary hemochromatosis include : EXCEPT**

a. association with an autosomal recessive gene located on chromosome 6.
b. male predominance.
c. hepatic cirrhosis and diabetes mellitus.
d. congestive cardiomyopathy.
e. grey skin pigmentation due to iron deposition.

**23- The typical features of pyogenic liver abscess include : EXCEPT**

a. obstructive jaundice and pruritus.
b. tender hepatomegaly without splenomegaly.
c. pleuritic pain and pleural effusion.
d. multiple abscesses, especially in ascending cholangitis.
e. Escherichia coli, anaerobes and streptococci present in pus.

**24- The typical clinical features of acute cholecystitis include :**

a. jaundice, nausea and vomiting.
b. colicky abdominal pain in spasms lasting about 5 minutes.
c. right hypochondrial tenderness worse on expiration.
d. air in the biliary tree on plain radiograph.
e. peripheral blood leucocytosis.

**25- As regard to viral hepatitis , which of the following is correct ?**

a. Hepatitis B can be acquired from serous fluid from a wound.
b. Hepatitis C is not a cause of hepatocellular carcinoma.
c. Hepatitis A is a cause of chronic liver disease.
d. Hepatitis E can be acquired by sharing needles.
e. A person with only a hepatitis B core IgG test positive is infectious for hepatitis B .

**26- Which of the following is the most common cause of upper GI bleeding ?**

a. Mallory-Weiss tear.
b. Variceal hemorrhage.
c. Dieulafoy lesion.
d. Peptic ulcer disease .
e. Thrombocytopenia.

**27- The initial regimen for a patient with tropical sprue is which of the following ?**

a. Folate and niacin.
b. Iron sulfate and tetracycline.
c. Gluten-free diet and prednisone.
d. Folate and tetracycline.
e. Azathioprine and prednisone.

**28- The initial regimen for a patient with Crhon's disease is which of the following ?**

a. Folate and niacin.
b. Iron sulfate and tetracycline.
c. Gluten-free diet and prednisone.
d. Folate and tetracycline.
e. Azathioprine and prednisone.

**29 - A 64-year-old man presents to his primary care physician with a complaint of foul-smelling diarrhea, which he has had for the past 4 to 5 months. He has three or four stools a day, which he describes as oily in nature. He denies experiencing a change in the caliber of his stools, and he also denies having abdominal pain, melena, or blood per rectum. His appetite is still fairly good, but he describes weight loss & fatigue. His medical history is notable for hypertension, hyperlipidemia, type 2 diabetes with retinopathy and mild neuropathy, and gastroesophageal reflux disease. His medications include metformin, insulin, atenolol, simvastatin, aspirin, and omeprazole. The neurologic examination is notable only for mild stocking-glove neuropathy, and an $S_4$ is heard on cardiac examination. Laboratory tests reveal macrocytic anemia and mild hypoalbuminemia.**
***Which of the following is the most likely diagnosis for this patient?***

a. Crohn disease.
b. Intestinal lymphoma.
c. Bacterial overgrowth syndrome.
d. Hemochromatosis.
e. Chronic pancreatitis.

**30- A 75-year-old man presents with gradually worsening pruritus, jaundice, and vague right upper quadrant abdominal ache. He has a 30-year history of ulcerative colitis. On exam, he has normal vital signs, scleral icterus, and hepatomegaly. His abdominal ultrasound shows dilated intrahepatic and extrahepatic ducts but no evidence of stones. His bilirubin level is 10, alkaline phosphatase level is 400, and amylase level is normal. An abdominal CT scan finds no pancreatic masses or adenopathy.**

***The differential diagnosis for this patient should include which of the following*?**

a. Primary biliary cirrhosis.

b. Sclerosing cholangitis.

c. Carcinoma of the biliary tract.

d. Drug-induced cholestasis.

e. B and C.

**31- Which of the following is true regarding cholecystokinin ?**

a. In excess , it precipitates gallstones.

b. It causes delayed gastric emptying through its action as a smooth muscle relaxant.

c. It is found in higher concentrations following cholecystectomy.

d. It releases the 'ileal brake'

e. It stimulates pancreatic exocrine secretion.

**32- Which of the following is the most effective in the treatment of gastro-esophageal reflux disease ?**

a. Ranitidine 300 mg BD.

b. Omeprazole 20 mg OD.

c. Bismuth TDS.

d. Mg trisilicate .

e. Aluminium hydroxide.

# Answers

**1- a. CT of the abdomen.**

Initial considerations in evaluating a patient with jaundice require a determination of whether the patient has primarily unconjugated hyperbilirubinemia or conjugated hyperbilirubinemia , in which case > 50 % of the serum bilirubin is conjugated bilirubin. The major differential diagnosis in this case is between impaired hepatocyte bilirubin excretion and extrahepatic biliary obstruction . Intra hepatic obstruction may occur in drug reactions, alcoholic hepatitis , the third trimester of pregnancy and viral or autoimmune hepatitis. In the case of Dubin-Johnson syndrome , the conjugated hyperbilirubinemia is due to a congenital defect in bilirubin excretion and generally is not associated with abnormalities of alkaline phosphase or hepatic amino - transferases. Patients who have conjugated hyperbilirubinemia and abnormal liver enzymes generally fall into two groups : those whose aminotransferase elevation is dominant and who are suspected of having a hepatocellular disorder and those who have primary elevation of alkaline phosphatase and are likely to have either intra or extra hepatic biliary obstruction. In the latter group of patients , it is imperative to rule out extra hepatic obstruction by means of ultrasonography of the right upper quadrant or abdominal CT , If the biliary ducts are not dilated on radiologic evaluation , the next most appropriate procedure would be ERCP.

**2- b. Dysphagia , chest pain and regurgitation are the predominant symptoms.**

Achalasia is a motor disorder of esophageal smooth muscle in which the lower esophageal sphincter (LES) does not relax properly in response to swallowing and normal esophageal peristalsisis replaced by abnormal contractions. Manometry reveals a normal or elevated LES pressure and reduced or absent swallow-induced relaxation. A decreased number of ganglion cells are noted in the esophageal body and LES of patients with achalasia , suggesting that defective innervations of these areas is the underlying abnormality. Dysphagia , chest pain and regurgitation are the predominant symptoms. The chest x-ray often reveals absence of the gastric air bubble , and the barium swallow reveals a dilated esophagus. Calcium channel antagonists such as nifedipine relax smooth muscle and have been effective in treating some patients. However, the main stay of therapy remains pneumatic dilation.

**3- b. Misoprostol.**

Gastric mucosal injury, potentially resulting in ulcers and erosive gastritis , may be produced by aspirin and nonsteroidal anti-inflammatory drugs including indomethacin , ibuprofen and naproxen. These agents may be directly toxic to the gastric mucosa by depleting protective endogenous mucosal prostaglandins. Moreover , they more directly interrupt the mucosal barrier , allowing back diffusion of hydrogen ions as well as reducing gastric mucus secretion and increasing gastric acid secretion. The prostaglandin E analogue misoprostol is effective in preventing ulcers and gastritis caused by NSAIDs. Its mechanism of action is believed to be stimulation of gastric mucus and duodenal bicarbonate secretion as well as the maintenance of the gastric mucosal barrier via epithelial cell restitution.

**4- C. D-Xylose absorption test.**

Malabsorption caused by bacterial overgrowth results from bacterial utilization of ingested vitamins and the deconjugation of bile salts by bacteria in the proximal jejunum . The bacteria also separate vitamin B 12 from the intrinsic factor, thus interfering with its absorption from the ileum. persons with bacterial overgrowth have steatorrhea , anabnormal Schilling test (even with the administration of intrinsic factor ), increased metabolism of non absorbable carbohydrates ( lactulose ) and increased bacterial concentrations in jejunal aspirates. Absorption of D- Xylose , a simple carbohydrate , is often normal.

**5- D. Urea.**

Amino acids , except for the branched - chain amino acids leucine , isoleucine and valine , are taken up by the liver via the portal circulation and are metabolized to urea .

**6- E. Surgical resection of the ileum.**

Obesity , clofibrate therapy , age and oral contraceptive therapy predispose to gallstone formation by increasing biliary cholesterol excretion . Extensive ileal resection leads to malabsorption of bile salts , depletion of the bile acid pool , and an inability to micellize cholesterol , resulting in an increased risk of gallstone formation. No correlation exists between serum cholesterol concentration and biliary cholesterol secretion . Hypercholesterolemia does not predispose to cholelithiasis. Other important predisposing factors to the formation of cholesterol gallstones include gallbladder hypomotility resulting from prolonged parenteral nutrition , fasting or pregnancy. Pigment gallstones may occur when the bilirubin level is high , such as in hemoglobinopathies or hemolytic anemia.

**7- B. Dubin Johnson syndrome.**

- Under normal conditions or even in cases of unconjugated hyperbilirubinemia ( e.g. hemolysis, Gilbert's & Crigler-Najjar types I and II ) : *the urine contains no bilirubin*. *This is because the unconjugated bilirubin , is tightly bound to albumin and is not filtered by the glomeruli.*
- In cases of conjugated hyperbilirubinemia ( e.g. Dubin Johnson , Rotor syndrome ) : the urine dipstick becomes positive for biluribin.

**8- B. HDV can infect only persons infected with hepatitis B virus ( HBV ).**

HDV is a defective virus that coinfects with and requires the helper function of HBV for its replication and expression. Therefore, the duration of HDV infection is determined by and limited to the duration of HBV infection. Although the delta core is encapsulated by an outer coat of HBsAg, the delta antigen has no antigenic similarity to that of any of the HBV antigens. In general, patients with simultaneous HBV & HDV infections do not have an increased risk of developing chronic hepatitis compared with patients with acute HBV infection alone. HDV superinfection of patients with chronic HBV infection carries an increased risk of fulminant hepatitis and death.

**9- E. Omeprazole plus clarithromycin plus metronidazole.**

This patient has the classic clinical symptoms and endoscopic findings of a duodenal ulcer. It is now a recommendation that H. pylori infection should be eradicated in patients with documented peptic ulcer disease. No single or double agent regimen has been reliably effective in eradicating the organism. In general, a combination of two antibiotics plus a proton pump inhibitor (*omeprazole*) is required to achieve a high likelihood of eradication. Such triple therapy is effective in eradicating the organism in approximately 90 & of the cases.

**10 - D. Auto immune hemolytic anemia.**

Bilirubin , a breakdown product of heme derived from red blood cells, is transported to the liver in an unconjugated Sstate, which is not renally excreted . The conjugation of bilirubin occurs in the endoplasmic reticulum of the hepatocyte when the molecule is attached to glucuronic acid .The conjugated bilirubin is then transported into the bile,then into the colon where most is excreted into the feces. Processes that prevent excretion of conjugated bilirubin due to intra hepatic diseases e.g. viral hepatitis, drugs as estrogen , chlorpromazine¸ or extra hepatic obstruction ( blockage due to cancer of the biliary system or pancreas , bile duct diseases such as sclerosing cholangitis , primary biliary cirrhosis lead to an increase of this species in the blood. Elevated levels of this soluble form of bilirubin can be detected visually as tea or cola- colored urine. Ultrasonography , CT or ERCP would be necessary to distinguish between extra and intra hepatic causes of conjugated - hyperbilirubinemia. Unincreased load of unconjugated bilirubin produced in states of excessive red cell destruction would generally not be detected in a urine test for bilirubin.

**11- B. Rectal bleeding.**

There are many similar manifestations of crohn's disease ( CD ) and ulcerative colitis ( UC ). However UC almost always displays continuous rather than the more segmental involvement characteristic of CD . UC rarely involves the entire bowel wall , whereas such transmural disease in CD can lead to abdominal masses, mesenteric node inflammation, and fistula formation. Since CD is much less likely to involve the rectum , hematocheziais less common than it is in UC . Extra intestinal manifestations , colonic malignancy and toxic megalcolon can occur with either entity.

**12- A. Virtually all patients with a duodenal ulcer harbor *H*. pylori.**

Although only 15 - 20% of persons infected with the spiral shaped , gram negative bacillus H. pylori will develop an ulcer 95 - 100% of those with a documented duodenal ulcer can be shown to have H. pylori infection. Typically the organism is found in the deep portion of the mucus gel. Although bacteria may adhere to the luminal surfaces of the gastric epithelial cells , they do not invade the muscosa . It appears that the bacteria activate inflammatory cells that produce mucosal damage and release enzymes such as proteases and phospholipases which degrade the mucus gel layer . The prevalence of gastric colonization with H. pylori increases with age and with lower socioeconomic status. There are multiple ways to diagnose H. pylori infection including histologic examination , culture measurement of urease activity and serologic studies. The most effective way to decrease the relapse rate for duodenal ulcer is to institute therapy that successfully eradicates H. pylori . The relapse rate is much higher if H2 receptor antagonists are used alone.

**13- E. endoscopic variceal band ligation.**

One of the most important complications of hepatic cirrhosis is variceal bleeding , which along with ascites and encephalopathy results from portal hypertension. The primary prophylaxis of known or previously bleeding varices includes cessation of alcohol , beta blockers , nitrates and possibly endoscopic variceal band ligation ( EVL ). Once bleeding develops , the first considerations are hemodynamic stabilization and airway protection. Emergency endoscopy is required to define the nature and site of bleeding. Medical therapy with vasopressin , with or without nitroglycerine or with somatostatin or octreotide can be used to slow the bleeding while a waiting endoscopy. Although endoscopic injection sclerotherapy controls the active hemorrhage in 90% , recent studies have suggested that EVL may be superior due to equal control rates with less rebleeding , fewer complications and reduced number of sessions. Balloon tamponade can be used if clinical stability can not be achieved and endoscopy is not immediately available.

**14- C. cystic fibrosis.**

- Sclerosing cholangitis, primary biliary cirrhosis , alcoholic cirrhosis : Intrahepatic obstruction.
- Cystic fibrosis : Common bile duct obstruction from chronic pancreatitis.
- Non-alcoholic steatohepatitis : Rarely causes jaundice.

**15- B. right hypochondrial tenderness.**

Right hypochondrial tenderness : Also common in acute hepatitis.

**16- B. Conjugated bilirubin in urine of healthy subjects is typically undetectable.**

- As almost all bilirubin is unconjugated and albumin-bound.
- In hemolytic anemia ,there is unconjugated hyperbilirubinaemia.
- Unconjugated bilirubin is increased in Gilbert's syndrome.
- Conjugated bilirubin in the serum in obstructive jaundice is typically increased.

**17- B. hepatosplenomegaly and ascites.**

**18- B. painful splenomegaly.**

**19- E. the protein intake should be at least 40g/day unless encephalopathy is suspected.**

- The dietary sodium intake should be restricted to < 40 mmol/day.
- paracentesis and parenteral albumin replacement are symptomatic measures with no prognostic value.
- Calorie restriction is neither required nor desirable.
- Daily weight loss >1 kg may precipitate renal impairment and/or encephalopathy.
- Protein restriction may be necessary to control encephalopathy.

**20- A. somatostatin (octreotide) therapy.** Somatostatin may be useful in acute bleeds.

**21- C. osteomalacia and osteoporosis both occur as the disease progresses.**

- middle-aged females are affected predominantly.
- pruritus may precede jaundice by months or even years.

- osteomalacia and osteoporosis both occur as the disease progresses due to Vitamin D malabsorption and hepatic osteodystrophy.
- rigors and abdominal pain are presenting features suggest obstruction of large bile duct.
- High titres of anti mitochondrial antibody , not smooth muscle antibodies.

**22 - E. grey skin pigmentation due to iron deposition.**

Melanin not iron deposition.

**23 - A. obstructive jaundice and pruritus.**

Jaundice is usually mild and not often obstructive.

**24 - E. peripheral blood leucocytosis.**

- Jaundice occurs in less than 20% even in the absence of stones (*Mirizzi's syndrome*)
- Pain is typically continuous for up to 6 hours.
- right hypochondrial tendernessworse on inspiration ( *Murphy's sign* ).

**25 - A. Hepatitis B can be acquired from serous fluid from a wound.**

**26- D. peptic ulcer disease.**

**27- D. Folate and tetracycline.**

**28- E. Azathioprine and prednisone.**

**29- B. Bacterial overgrowth syndrome.**

This patient has a subacute to chronic presentation with steatorrhea and likely folate defideficiency, vitamin $B_{12}$ deficiency or both. He has diabetes mellitus, which can cause stasis through autonomic neuropathy. Anything that causes intestinal stasis allows a proliferation of bacteria, which leads to changes in bile salt metabolism and impaired absorption, primarily of vitamin B12 . In addition , this patient is taking proton pump inhibitor , which can reduce motility of the proximal small bowel, often precipitating symptoms in a predisposed patient. Therapy usually entails repeated courses of antibiotics active against anaerobes. There is no convincing evidence for the effectiveness of anyof the other choices presented.

**30- E. B and C.**

In this case, other possible diagnoses include a solitary common bile duct stone that escaped detection on ultrasound and CT, occult pancreatic carcinoma, bile duct stricture, and extrahepatic compression of the biliary tract. Although sclerosing cholangitis usually develops in younger men (aged 20 to 50 years), it is often associated with ulcerative colitis. About 60% of patients will also have a positive perinuclear antineutrophil cytoplasmic antibody (p-ANCA) test result. The hallmark finding on ERCP is segmental stenosis of the biliary tree. Primary biliary cirrhosis is an autoimmune disease that typically affects women. About 95% of patients have antimitochondrial antibodies. Both primary biliary cirrhosis and drug-induced cholestasis cause intrahepatic cholestasis without extrahepatic duct dilatation.

**31- E. It stimulates pancreatic exocrine secretion.**

**32- B. Omeprazole 20 mg OD.**